

ART. XIX.—*Iconographie Photographique de la Salpêtrière (service de M. Charcot)*. Par BOURNEVILLE et P. REGNARD. Part 2me. 4to. pp. 234. Plates. No. xxxix. Paris: V. Adrien Delahaye & Co., 1878.

M. BOURNEVILLE is known to American readers as the intelligent and industrious assistant of M. Charcot. It is he who has systematized and edited his famous teacher's work; but while doing this he has himself added greatly to the value of the material which has passed through his hands, and his own researches in hystero-epilepsy, sclerosis, etc., are scarcely less valuable than those of M. Charcot; consequently in the volume before us we naturally expect to find a great deal that is new and good, and we are not disappointed.

Bourneville and Regnard have been engaged during the past two years in photographing the patients at La Salpêtrière, and their results form the basis of the work. There are in all thirty-nine plates, prepared by a new process of photo-lithography, a photographic impression being first made upon the stone in a dark chamber, and this stone is used with a fatty ink, as in the ordinary lithographic process. The plates are consequently very faithful copies from originals, but as it is next to impossible to obtain a sharp picture of such patients as those figured, because of their constant agitation, it has been found necessary to retouch to a great extent. This procedure, however, takes little from the value and accuracy of the picture.

The plates illustrate two forms of nervous trouble, the first of which is *partial epilepsy*, the second *hystero-epilepsy*, and besides these illustrations of a lithographic character, there are several wood-cuts distributed through the text.

The first half of the volume is devoted to the consideration of partial epilepsy, which is a term used by the author in the same sense that it is by Hughlings-Jackson, to indicate a local cortical discharge. Most of the cases brought forward by Bourneville are those which we have been taught to consider under a variety of names, such as atrophy of the brain, post-hemiplegic chorea, athetosis, etc. etc., with the addition of the epileptic element.

Bourneville divides partial epilepsy into three varieties:—

1. Partial hemiplegic epilepsy—that form in which the paralysis and other troubles begin early in life. The phenomena of the attack resemble those of common epilepsy, with this difference, that the convulsions are limited to the paralyzed side.

2. Partial tonic epilepsy with contractures.

3. Partial “vibratory” epilepsy.

In illustration of the first form, two cases are given. The first presented cerebral atrophy with right hemiplegia (patient supposed to have been born with the paralysis), epilepsy appearing at 12; the paroxysm always preceded by aura beginning in paralyzed side, after which the hand and arm of this side become agitated by convulsions. The patient next becomes unconscious; vertigo at times. The second patient presented this history: convulsions at 17 months; left hemiplegia; appearance of epilepsy at the 12th year as the result of fright; aggravation of the attacks at 22; gastric crises; migraine; disturbances of sensibility, etc.

In both of the subjects the convulsions which began in the paralyzed side were characterized by three stages, a tetanic, a clonic, and a ster-

torous, and there was an elevation of temperature. The convulsions varied in duration from ten to fifteen minutes.

This class of cases includes those of a kind dependent upon an inflammatory cerebral lesion. There may be a disappearance to some extent of the initial paralysis, but there remains afterwards a feebleness and uncertainty of movement, until at the end of a year or so when there is the accession of epileptic symptoms limited to the weak side only; after them remains a species of secondary lasting hemiplegia. This is the abstract of an illustrative case:—

“At the age of twenty-five months Per— was attacked with convulsions, which lasted nine hours, confined to the right side of the body, and involving leg, arm, and mouth. On recovery, she was found paralyzed, and could not move at all the arm or leg of the paralyzed side (the right). Three months afterwards she was found to have regained some of her lost power, but her limbs were rigid, and a marked stiffness was observable at the end of the fourth month. At four years and a half she became again attacked with convulsions, which lasted for four or five hours, the movements being confined to the right side; complete flaccidity, followed after a time by a return of the rigidity. When five years of age there was a third illness, lasting twelve hours, in which the convulsions again appeared on the right side, with fresh paralysis and rigidity. The hemiplegia is complicated with athetosis.”

Certain features of the disease are prominently mentioned. We are told that the upper extremity is the seat of more profound and obstinate contracture than the lower, and so with the convulsions, which nearly always begin in the superior extremities. Joint pains and arthropathies almost always follow the paralysis. The shoulder and elbow are the seat of lively pains, which are increased with sudden variations of temperature. The atrophy both of muscles and bones is decided on the paralyzed side. The muscles ordinarily retain their electric contractility.

In the third group of this first class of cases these paralytic and epileptic manifestations are connected with certain varieties of movement more familiarly known as hemi-chorea and athetosis. The latter Bourneville believes to be a symptom only, and not a disease having peculiar and distinctive characters. This localized disturbance of motility occurs, as Bourneville thinks, in many cases of cerebral atrophy, and this is probably the opinion of most neurologists who have had much experience with chronic nervous cases at hospitals. Indeed, the “athetoid” symptom is by no means as rare as certain authors would have us believe. There is a hyper-extension of the fingers in many of these cases at one part of the local “athetoid” movement, and this, with a certain vermicular slowness of extension and flexion, is its only peculiarity. The objections of Charcot to Hammond’s term are presented, which go to prove what all neurologists have appreciated, viz., that “*athetosis*” is a misnomer; for the movements described by Hammond are not confined to the hands and fingers, but are to be witnessed in other parts of the body, the foot, arm, face, and neck muscles being agitated in certain cases. In the majority of Bourneville’s cases the appearance of the so-called athetoid movement was from fifteen to twenty days after the convulsive attack.

Upon page 40 the differential diagnosis between these various movements is clearly drawn, but there is little presented that is new. The mental peculiarities of some of these patients are noted and illustrated. Plates V. and VI. represent an imbecile, with right hemiplegia and contracture; Plate VI. *bis* represents arthropathic changes in the right upper extremity.

It was found by Bourneville that the epileptic cry is usually absent; that the clonic convulsions are nearly always limited to the paralyzed side; that they are more violent and less prolonged when they affect the sound side of the body. Frothing at the mouth is rare, and involuntary micturition still more so; the period of stertor is short, and this condition not at all profound, while the patients regain consciousness without the delirium which is found in ordinary cases. Trembling usually succeeds the attack, and is an interesting symptom. The disease in many of the cases lasted ten, fifteen, or twenty years, and occurred as often sometimes as eight or ten times a day. The attacks were both diurnal and nocturnal.

The second grand division, viz., partial epilepsy of a tonic character with contracture is illustrated by two cases. The points of the attack in one case are briefly as follows :—

An *aura* consisting of vertical pain in the head, confined to the left side, and accompanied by throbbing; epigastric pain and violent palpitation preceded the convulsive symptoms. The last three fingers of the right hand became cold, and the seat of trembling. The face became pale, and bore an anxious expression. She sought a chair, appearing dazed, and complained of flashes of light shooting before the eyes; the eyes were spasmodically closed. The attack began by contraction of the muscle of the right side of the neck, which drew the head to the corresponding shoulder. The eyelids were closed and agitated by slight movements. The pupils were dilated. She did not lose consciousness, and the face was constantly turned to the affected side of the body. The right arm was contracted in extension and pronation, the hand being bent at a right angle with the arm. The index finger and second finger were extended, while the others were semi-flexed. The right inferior extremity is often contracted in extension, but less intense than in the arm. These different symptoms, which constitute a species of primary phase, last a minute; then the patient turns in her chair from left to right, the head remaining always inclined towards the right shoulder, but the chin is directed towards the sternum. At this moment the anterior part of the body is drawn towards the back of the chair, the forearm is flexed at a right angle on the arm, and is drawn across the dorso-lumbar region. At the end of two or three minutes the patient rotates in a contrary direction—from the right to the left—that is to say, the original position. The eyes open, the forearm is extended violently, all the other symptoms disappear, and she asks for a drink of water, the teeth clattering on the edge of the glass. These attacks last for two or three minutes—sometimes for five or eight minutes, and there is a rapid return to the normal condition.

The third variety, the vibratory partial epilepsy (*l'Epilepsie partielle vibratoire*) is quite rare. The features of the disease are illustrated in the case of Marl. At four and a half years of age she had an attack of convulsions announced by crying, grimaces, etc., and after these prodromal symptoms she became convulsed and remained so for thirteen hours. During this time the movements were confined to the *right side of the face and body*. The discharge of urine and feces was voluntary. After these convulsions she went out to play as if nothing had been the matter. About a year later M. had convulsions lasting an hour, which again affected the right side, leaving after them a certain degree of paralysis which caused the child to drag the right leg. The paralysis of the right leg was not

aggravated during the first year and a half to the sixth year and a half, and the right upper extremity was free. Her intelligence was unaffected, and developed naturally, and she was sweet tempered and affectionate. Six months after this she became irritable, and the right leg became the seat of jactitations for thirty seconds at a time. There was no loss of consciousness, no cry, no frothing at the mouth. Later on these attacks became more frequent, and were preceded by irritability. They subsequently grew stronger and next the right arm became the seat of "vibrations," and finally the left side of the body became involved. At this time there was loss of consciousness, which lasted from one to two minutes. These attacks were nocturnal and diurnal, but predominated during the day. Two cases of this kind are given, and in the second case two or three plates are presented which illustrate the phases of the attack.

These then are the three forms of partial epilepsy, though strictly speaking the second form is not an epilepsy at all, for there is no loss of consciousness. In the others the relation of the convulsive attacks to the primary nervous condition is sufficiently near to bring it into the case as a part of the pathological process. Heretofore such cases were spoken of as "Hemiplegia with epilepsy" or "Hemiplegia followed by athetosis," and very little importance was attached to the convulsive character of the post-paralytic state. Now an entirely new interest is given to the disease picture, much of which arises from the connection of such phases of exaggeration or disordered motility with lesions of the cortical centres. Thanks to Hughlings-Jackson, these patients, who before were the least interesting of all chronic hospital cases, become subjects of the most attractive kind of study.

The second and most important part of M. Bourneville's work is that which considers hystero-epilepsy. Charcot and Bourneville were, without doubt, the first persons after Briquet to study and describe this most dramatic and curious disorder, and have succeeded in attracting general and unusual attention to the little group of patients of this kind gathered at La Salpêtrière. Before the early *leçons* of Charcot, these particular phases of hysteroid disorder were not recognized as distinct, and all such cases were roughly grouped under the head of "hysterical convulsion." A few years later Bourneville described more carefully and fully the cases of "Ler," "Etchv," and others of Charcot's patients, and within the past year or two they have been seen and examined by Ernest Hart, Sigerson, Dumontpallier, Luys, Westphal, and others, who have described the attacks, and metallo-therapy, and have attested to the wonderful character of the disease.

These descriptions are too familiar to need repetition, and in a review of this kind any extended criticism of the subject would be out of place, for M. Bourneville's book is but an admirable recital of the clinical feature of hystero-epilepsy, and he does not enter into the consideration of its pathology. It may not be amiss, however, to briefly call attention to the peculiarities of the disease, which, as we know, is a peculiar combination of epilepsy and hysteria, the convulsive element predominating at times, and the psychical at others, and as a result of this mixture we find a series of attacks beginning with tonic and clonic convulsions, stertor, and delirium, and separated by periods of repose which have varying duration. These attacks occur as repeated paroxysms, sometimes numbering several hundred, and are produced by exciting causes such as sudden emotional disturbance, visual stimulation by bright light, the patient being made to look fixedly at a calcium or electric light, or by pressure upon some parts of

the body, such as the spine, or the mammæ which are especially sensitive, and so much so as to have given rise to the mistaken diagnosis of cancer in times gone by. In the two cases which form the chief part of the volume before us, and if our memory serves us aright, in nearly all of M. Charcot's previous cases, there has been a groundwork of the most dramatic description. This is especially the case in the first patient presented by Bourneville, in whom a history of early neglect, orphanage, seduction at fifteen by a man of seventy, who drugged her, etc. etc., make up a truly sensational story. Other women have been prostitutes, and others were apparently insane. In these as well as in other cases there is a suspicious element of fraud upon the part of the patients indicative of an inclination to deceive, which may be and is purely involuntary. This has its counterpart in men and women all of us know, who lie as naturally as they eat or drink, and have no conception of their unfortunate failing, while they very rarely have anything to gain by falsehood. In the hystero-epileptic patient, and in fact in the aggravated hysterical patient, misrepresentation and untruthfulness become secondary moral habits. This we have seen in a young woman who expressed every desire which seemed earnest to eat, but would not swallow, or retain any article of food she took herself, though she cried for hours because of her demoralization and weakness, but retained what was forced into her stomach and obeyed the directions of any person of stronger will. Consanguineous marriages are not considered by Dr. Bourneville to have much to do with the development of this state, but sexual vices, menstrual disorders, and various nervous diseases of the parents are held by him to enter into its proximate or remote production. In this connection it may be well to allude to Bourneville's statement that he has observed that nightmare and bad dreams in childhood have played an important part in the etiology of the affection.

The prodromal features of an hystero-epileptic attack are ovarian hyperæsthesia, the globus hystericus, cardiac palpitations, constriction about the neck, noises in the ears, violent beating of the temporal arteries, obscure vision, etc. The immediate attack is ushered in by irregular respiration, oppression and dyspnœa, awkwardness of speech, amounting to embarrassment, of which the following example, which occurred in one of our author's cases, may be presented. After the prodromal symptoms described above, the patient, with hesitation and difficulty, enunciated the words: "J'ai . . . l'a . . . respiration . . . dif . . . facile . . . se . . . ne . . . serai . . . pas . . . malade . . . afin . . . de . . . pas . . . avoir . . . de nitrite d'amyle," in the way they are written. Some tumultuous heaving of the belly then follows, the eyelids palpitate rapidly, the look becomes fixed, the pupils dilated, the gaze is fixed upon some object above, and then she loses consciousness.

The actual attack is characterized by an initial stage (*the tonic phase*) of tonic convulsion. The entire body becomes rigid, the arms being usually stretched out, and the hands turned in; there is a movement of circumduction of the hands and forearms, the arms being drawn across the body, and the back of the hands brought together, so that the knuckles are approximated (see Fig. 1). The inferior extremities are stretched out, and drawn apart, the feet being in the position of equinus varus, but in other cases the feet may overlap each other, the toes being strongly flexed. The face is contorted and suffused with blood, and the mouth is often widely opened, or in some cases tightly shut, the lips being compressed over the teeth. Res-

piration is suspended, the pulse is with difficulty perceived, and the belly is immobile and contracted. The next phase is that characterized by *tetaniform* and *clonic spasms*, the head, which was drawn downwards and to one side or backwards, returns to its normal position, the facial muscles become seized with clonic spasms, and the eyelids are opened and shut violently but somewhat slowly. A *stertorous phase* supervenes, the face

Fig. 1.



becomes covered with large drops of sweat, the respiration grows noisy and violent, and there is frothing at the mouth. A period of repose then follows, when the respiration appears regular; there are movements of swallowing, abdominal gurglings are heard, and undulations of the abdominal walls become apparent. The *clonic phase*, which has been described as the "stage of contortion," is expressed in two ways, which sometimes succeed each other in the same attack. 1. In clonic movements of the limbs and head, which is rolled from side to side. The face is red and engorged with blood, the neck is stiff, and the arms are stretched out and contracted, and after a time the patient falls violently to the bed, arising and falling again several different times. At the same time the rigidity of the arms disappears, little by little.

2. "The mouth is widely opened, the tongue is protruded; she moves rapidly to the side of the bed crying oh! oh! (*oue! oue!*) The body becomes curved in opisthotonos (see Fig. 2). She rests on the back of the head and feet, the hair is dishevelled, the legs are convulsed and agitated by alternate movements of flexion and extension."

A new period of repose follows.

By far the most interesting phase of the disorder now makes its appearance, viz., the *period of delirium*, and much of the attractiveness and interest of the volume before us depends upon the great number of beautiful plates which depict the various changing expressions in the emotional gamut. Artistically they are of value, for in no other way is it possible to obtain such vigorous, rugged portrayals of natural emotion so necessarily devoid of artificiality. Psychologically they are interesting as involuntary exhibitions of unbridled emotional excitement, just enough intellect remaining to serve as a basis for the activity of the ideational centres. In Dr. Bourneville's patients, and in fact those of other observers, the incidents of the previous life figure conspicuously in the delirium, and though there is a tendency to the formation of causeless hallucination of

the horrible kind, in which reptiles, and such small animals as rats and cats figure at some stage, there is an old impression which serves as a field for the development of a delirium which is exhibited by gesticulations and facial expressions of fear, ecstasy, anger, mockery, erotism, and grief.

Fig. 2.



The patient at this stage assumes an attitude and expression indicative of her emotional condition. She may remain lying upon the bed, her body inclined to one side, her arms resting by her side, her face upturned and wearing a beseeching look, which constitutes the "Attitude Passionelle" of *Appeal*. At another time she clasps her hands, sits up, turns her face upwards, and gives expression to words of supplication, such as these; "Tu ne veux plus? Encore . . . !" this being the "Supplication Amoreuse." At other times the patient lies upon her back, her arms crossed over her breast, and her face wreathed with a most sensuous smile (*erotisme*). Again, the attitude *Menace* is represented in four plates, showing a rather pretty young woman in the half erect posture, with clenched fist and clouded brow, giving utterance to such words as "Vilaine bête!" or "Sale bête! Pignouf! . . . Est-il permis?" while she strives to catch the unpleasant figure which torments her. "Infâme! Lâche!" and she launches forth into a string of hearty invective. It would indeed be a protracted and difficult task to enter into the extended discussion of these various interesting and peculiar expressions of delirium, and the reader must consult the work itself if desiring an exceedingly amusing and curious study.

The variations of the delirium do not seem to be at all regular in their mode of appearance or constancy, but there is a general similarity in the form of emotional excitement and method of expression, and from an inspection of either of the cases, it would appear that for several days at a time there were convulsive attacks followed by delirium, in which scorn, mockery, fear, amorous ecstasy, subsequent repose, and either a return of the delirium, or fresh convulsions, occurred.

There may be fifteen or twenty attacks in twenty-four hours, or even many more, and some of these are aborted or irregular, at such times the only manifestations being those of a purely psychical nature; the syncope attacks being examples of this kind. In rare cases the *clonic phase* (or period of the grand movements) is followed directly by the extension of the arms at right angles from the body, so that an appearance is presented which has been called *Crucifiement*, or the position of crucifixion.

This is usually associated with the portrayal of various ecstatic states, which are termed by Bourneville *béatitude*, etc. The first of these is most strikingly portrayed in the plate which is here reproduced (Fig. 3).

Fig. 3.



A feature of Observation 1, is the complication of chorea, which was manifested at different times in the course of the disease. It was of a rhythmic character, and involved the entire body, so that the trunk was drawn backwards and forwards, the forearms were flexed and extended, the hands were pronated and supinated alternately, and the legs and thighs flexed and extended, the right eyelid became closed, and the muscles of the right side of the neck were convulsed. This occurred in paroxysms, and was modified under ovarian pressure, the movements becoming less violent, and finally ceasing. When the compression was suspended, the movements began anew, and a violent contraction of the right arm and leg, which had lasted during the maintenance of pressure, disappeared. Ether was given, and again the movements were suspended, but a fresh contraction of the limbs of the right side took place. The behaviour of the chorea during the time the patient was subjected to various forms of treatment, is admirably detailed upon pages 158 and 159.

In one or other of these cases hemianæsthesia and ovarian hyperæsthesia were observed from time to time. Contraction of various organs was quite frequent, and was sometimes provoked by ovarian pressure, as in the case just detailed, and different visual disorders, such as amaurosis and disordered colour sense, were discovered, while hallucinations of vision were prominent in both cases.

Very little is said about treatment, and our attention is directed chiefly to such agents as nitrite of amyl, chloroform, ether, or valerianate of ethyl which stop the paroxysm. Ovarian pressure by means of the apparatus

like that occasionally used for the purpose of compressing aneurisms, is spoken of, and a plate is added to the text. Two hard pads, one of which has a concave surface to grasp the ovary, are used by Bourneville, and the use of this compression has been attended with interesting results, chiefly, however, of a scientific nature.

Metallo-therapy is spoken of occasionally, but very little is said in regard to this curious method of treatment, and we suppose the author's investigations are to be described hereafter.

The last case described by Bourneville is that of G  nevieve, a *succube*, and those who have read the elder Balzac's story in *Les Contes Drolatiques* will enjoy the details of this case. G  nevieve, whose portrait (Plate XXXIX.) represents a very melancholic, middle-aged woman, presents an example of demoniac possession, with certain very curious modifications of sensation. The feature of this patient's disease resembled those of Madeleine Bavart, who believed that she was visited by the Devil, who took the form of a cat; and in both of these cases the hallucination resembled very strongly those of delirium tremens, in which rats, cats, serpents, and other animals form the basis of the visual hallucination.

Numerous details of many interesting cases of demoniac possession are presented, and form a very attractive part of the book.

The peculiar surroundings of all of Dr. Bourneville's patients have been such as to lead to exaggerated manifestations of all kinds; in fact these women have been so frequently exhibited, "put through their paces," and commented upon, that the speculation immediately arises in our minds as to what might have been the character of the early attacks, and the possible difference from those presented during their career at La Salp  tr  re, which are described by our author. This matter is worthy of consideration, and has much to do with the significance of the delirium stage. Then, again, a query suggests itself in regard to what might be the possible difference between attacks of hystero-epilepsy in women of other countries, who are not so emotional as the French, and whose religion is not so closely incorporated with the affairs of every-day life as it is in Roman Catholic countries; and this leads to the question whether hystero-epilepsy in Norway or Sweden, England or America is so marked by ecstasy, religious frenzy, and so often presents the "crucifiement." The few English and American cases do not show this. Dr. Thos. Anderson¹ reports a case in which there are none of the religious manifestations so frequently displayed in the French cases; and in cases reported by the reviewer² the absence of this phase of the delirium is the rule, but in a case since seen, the patient being a devout Catholic, the "crucifiement" is often presented. This is certainly suggestive of the fact that the delirium is almost entirely influenced by previous circumstances, belief, etc. The advance in our knowledge of these peculiar psycho-neuroses is certainly a great one, and these and other histories are of decided value in showing how many of the extraordinary religious beliefs of the past, and the superstitions of the present time, are entirely dependent upon complicated diseased states of the body and mind. We are consequently enabled to argue from much more firm and definite premises, when we appreciate the relationship (especially of the former) with these manifestations. The curious results of ovarian pressure, the provocation of the attack by bright lights, and pressure, such as has been described by Sigerson as *crisogenic*,³

¹ British Medical Journal, Feb. 8, 1879.

² Nervous Diseases, their Description, etc., Phila., 1878.

³ British Medical Journal, 1879, vol. i. pp. 145, 181.

supplies the link in the chain which is in connection with the bodily nervous trouble at one end, and mental disorder at the other.

Heretofore our arguments were to a great extent purely metaphysical, and consequently we were little better off than our opponents, who advocated the possibility of possession good or bad, who believed in the miraculous and the nonsense so dear to the credulous mind in search of mystery. What an amount of bigotry, folly, and injury to weak minds is counteracted by the discoveries and investigations of MM. Charcot and Bourneville it is not difficult to imagine. The false lessons inculcated by designing persons who have used the disordered bodily and mental states of stigmatisation, ecstasy, and the legion of dramatic hystero-epileptoid symptoms for purposes of deception stand a good chance of being completely and universally neutralized.

A. McL. H.

ART. XX.—*Cerebral Localization.*

Lectures on Localization in Diseases of the Brain. By Prof. J. M. CHARCOT. Edited by BOURNEVILLE. Translated by EDWARD P. FOWLER, M.D. 8vo. pp. 133. New York: Wm. Wood & Co., 1878.
The Localization of Cerebral Disease. By DAVID FERRIER, M.D., F.R.S., etc. 8vo. pp. 142. New York: G. P. Putnam's Sons, 1879.
Revue Générale des Sciences Médicales. Art. des Localisations Cérébrales Corticales. Par H. RENDU. pp. 298. 15 Janvier, 1879.

No subject during the last five years has attracted more intense and widespread attention from the medical world than that of cerebral localization. Rendu heads his admirable review with a list of more than a hundred works and articles published within three years. It is the great living question. Physiologists, pathologists, and physicians are deeply interested in the facts collected and the issues involved. We have a new phrenology, which is presented as a science and a system based, not upon crude speculation, but upon careful, laborious work, the value of which is not to be measured altogether by its direct fruits, whatever they may be. The names of Charcot and Ferrier, whose books are before us, are pre-eminent in the recent and important era of cerebral investigation.

The books of Charcot and Ferrier, although similar in title, are by no means alike in contents. Ferrier's volume, as the author states in his prefatory note, is the complement from a clinical and pathological standpoint of his former work on "The Functions of the Brain;" Charcot's contains matter essentially different from both of these. From the three works a complete idea of the subject of localization can be obtained.

Both books are issued in excellent style, and with illustrations so good that he may run that reads the lessons which they teach. Dr. Fowler's translation is indorsed by Charcot himself as a model both of scrupulous exactitude in rendition of the original meaning, and as a clear and unexceptionable style of English. No physician who aspires to keep pace with the advance of his profession should be without these works.

Charcot's lectures, here presented, are only the beginning of an extensive series; but his preliminary work is of the very best character. They constitute an elaborate anatomico-pathological study of the brain, an "exposition of the principles underlying the doctrine of cerebral localization." The encephalon is well discussed from a morphological point of view; a